

REMARKS

The present application was filed on May 23, 2007 with claims 1 through 30. Claims 1-30 are presently pending in the above-identified patent application. Claims 1-3, 11, 15-17, 24, 27, and 30 are proposed to be amended herein.

In the Office Action, the Examiner objected to claims 2, 3, 11, 16, 17, and 24 due to indicated informalities, and rejected claims 27 and 30 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner rejected claims 1, 4, 8-10, 12, 13, 15, 18, 22, 23, and 25-30 under 35 U.S.C. §102(e) as being anticipated by Perahia et al. (United States Patent Number 7,352,688), rejected claims 2, 5, 6, 11, 16, 19, 20, and 24 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Shattil (United States Patent Publication Number 2004/0141548), rejected claims 3, 7, 17, and 21 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Zhuang et al. (United States Patent Publication Number 2003/0123381), and rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Perahia et al. in view of Jia et al. (United States Patent Number 7,103,325).

Formal Objections

Claims 2, 3, 11, 16, 17, and 24 were objected to due to indicated informalities. Regarding claims 2, 3, 16, and 17, the Examiner asserts that the term “said grouped” is informal to be used in the context of the cited claims and suggests changing “said grouped” to “the grouping.” Regarding claims 11 and 24, the Examiner asserts that the limitation “each of said long training symbols are orthogonal in the frequency domain” is grammatically incorrect.

Applicants note that claims 2, 3, 16, and 17 have been amended in accordance with the Examiner’s suggestions and that claims 11 and 24 have been amended to correct the grammatical errors.

Thus, Applicants request that the cited objections be withdrawn.

Section 112 Rejections

Claims 27 and 30 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserts that there is insufficient antecedent basis for the limitation “said indicated duration.”

Applicants note that claims 27 and 30 have been amended to correct the antecedent basis of the cited term and respectfully request that the section 112 rejections be withdrawn.

Independent Claims 1, 15, 27 and 30

Independent claims 1, 15, 27 and 30 were rejected under 35 U.S.C. §102(e) as being anticipated by Perahia et al. Regarding claim 1, the Examiner asserts that Perahia discloses wherein said subcarriers are grouped into a plurality of subcarrier groups (col. 3, lines 54-60; col. 4, lines 17-22; and col. 5, lines 16-27), and wherein each subcarrier group is transmitted on a different transmit antenna in a given time interval (col. 3, lines 54-60; col. 4, lines 17-22; and col. 5, lines 16-27).

Applicants note that Perahia discloses “groups of *64 subcarrier values*.” (Col. 5, lines 16-27; emphasis added.) Perahia only discloses a *single* group of 64 subcarriers. (Col. 3, lines 50-67.) Thus, Perahia does not disclose or suggest wherein said subcarriers are grouped into a plurality of subcarrier groups, as variously required by each independent claim.

Furthermore, independent claims 1 and 15 have been amended to require transmitting a legacy preamble having at least one long training symbol, and at least one additional long training symbol on each of said N transmit antennas, each of said long training symbols having a plurality of subcarriers, wherein said subcarriers are grouped into a plurality of subcarrier groups, and *wherein each subcarrier group comprises two or more adjacent subcarriers* and is transmitted on a different transmit antenna in a given time interval. Independent claims 27 and 30 have been amended to require receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbols on each of said N transmit antennas, each of said long training symbols having a plurality of subcarriers, wherein said subcarriers are grouped into a plurality of subcarrier groups, and *wherein each subcarrier group comprises two or more adjacent subcarriers* and is transmitted on a different transmit antenna in a given time interval.

Thus, Perahia et al. do not disclose or suggest transmitting a legacy preamble having at least one long training symbol, and at least one additional long training symbol on each of said N transmit antennas, each of said long training symbols having a plurality of subcarriers, wherein said subcarriers are grouped into a plurality of subcarrier groups, and wherein each subcarrier group comprises two or more adjacent subcarriers and is transmitted on a different

transmit antenna in a given time interval, as required by independent claims 1 and 15, as amended, and do not disclose or suggest receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbols on each of said N transmit antennas, each of said long training
5 symbols having a plurality of subcarriers, wherein said subcarriers are grouped into a plurality of subcarrier groups, and wherein each subcarrier group comprises two or more adjacent subcarriers and is transmitted on a different transmit antenna in a given time interval, as required by independent claims 27 and 30, as amended.

Dependent Claims 2-14, 16-26 and 28-29

10 Claims 2-14, 16-26 and 28-29 are dependent on claims 1, 15, and 27, respectively, and are therefore patentably distinguished over Perahia et al., Shattil, Zhuang et al., and Jia et al., alone or in any combination, because of their dependency from amended independent claims 1, 15, and 27 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

Conclusion

15 All of the pending claims following entry of the amendments, i.e., claims 1-30, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at
20 the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

/Kevin M. Mason/

25 Date: June 11, 2009

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